# UKHSA identifies four virus families with elevated pandemic risk



Officials at the UK Health Security Agency (UKHSA) have issued a detailed assessment identifying four virus families that pose an elevated risk of triggering a future pandemic. This announcement has raised alarms among scientists and public health officials, particularly regarding the potential impact of a measles-like virus, which some experts believe could be more dangerous than Covid-19.

The UKHSA has classified a total of 24 virus groupings according to their pandemic potential, assigning them ratings of high, moderate, or low. The assessment takes into account factors such as the infectiousness of emerging variants, the severity of diseases they may cause, and the specific vulnerabilities of the UK population, including geographical and demographic aspects, as well as the availability of treatments.

The four families deemed to have a high pandemic risk are:

**Paramyxoviridae**: This family includes measles and the Nipah virus, both of which can lead to severe illness and high mortality rates. Notably, measles outbreaks are currently on the rise globally, attributed to declining vaccination rates. Complications from measles encompass serious conditions such as pneumonia, brain inflammation (encephalitis), and even vision loss.

**Picornaviridae**: Known for causing diseases like poliovirus, this family includes enteroviruses that can lead to acute flaccid myelitis (AFM), a severe condition resulting in muscle weakness and paralysis, predominantly affecting children.

**Coronaviridae**: This grouping covers various coronaviruses, including those responsible for Covid-19 and Middle East Respiratory Syndrome (MERS). Given the ongoing conversation around Covid-19 variants, this family continues to be closely monitored.

**Orthomyxoviridae**: Responsible for influenza viruses, including strains of bird flu, this family presents a constant threat due to the potential for seasonal outbreaks and mutations.

Professor Mark Woolhouse, a noted expert in infectious diseases from Edinburgh University, provided insights regarding the potential impact of a novel measles-like virus. He stated, “A novel measles-like virus would pose a threat far worse than Covid. Such a virus would have a much higher R number than the original variants of Covid, making it impossible to control by even the strictest lockdown. It would also be considerably more deadly and, unlike Covid, it would be a threat to children.” Woolhouse outlined concerns that measles can compromise immunity, leading to increased susceptibility to other infections following a large outbreak.

UKHSA’s chief scientific officer, Dr Isabel Oliver, emphasised the international implications of these findings, stating, "Infectious diseases don't respect borders, so all of this has an international dimension. In the context of the changing climate and other threats, there are a wide range of pathogens that could cause the next pandemic."

Additionally, the report highlights concerns over rising populations of disease-carrying mosquitoes and ticks due to environmental changes, signalling a need for ongoing surveillance. Dr Oliver mentioned that collaborative efforts with local governments and public health sectors are crucial to address potential health impacts.

Mixed perspectives arise regarding the usefulness of such pandemic risk assessments. Professor Robert Read from Southampton University critiqued the UKHSA's list, suggesting that while it aims to prioritise research funding aligned with public health needs, the unpredictable nature of pathogen emergence makes it difficult to precisely define priorities.

Alongside these findings, a separate report co-authored by Sir Jonathan Van-Tam, former deputy chief medical officer for England, has also stressed the importance of international data sharing to monitor new Covid-19 variants. Van-Tam cautioned against "public fatigue" regarding the virus, emphasising that vulnerable populations remain at risk. He highlighted recent advances in Covid-19 treatment tools, reiterating the need for continued vigilance among health leaders.

In summary, the UKHSA’s assessment not only identifies significant pandemic threats but also underscores the necessity for ongoing research and preparedness for emerging health risks as the world continues to navigate the complexities of infectious diseases.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.itv.com/news/2025-03-25/uk-lists-which-viruses-and-bacteria-pose-the-biggest-threat-to-public-health> - This article supports the claim that UKHSA has identified pathogen families posing significant public health threats, including their pandemic potential and the importance of scientific research to prepare for these risks.
* <https://www.miragenews.com/ukhsa-identifies-top-public-health-pathogen-1431988/> - This source corroborates the UKHSA's prioritization of pathogen families for research and development, aiming to boost preparedness against biosecurity risks such as coronaviridae and orthomyxoviridae.
* <https://www.health.org.uk/blog/climate-change-and-vector-borne-diseases> - This article highlights concerns about the rise in disease-carrying mosquitoes and ticks due to climate change, aligning with UKHSA's surveillance needs.
* <https://www.who.int/news-room/q-and-a/detail/measles> - This source provides information on measles, including its high infectiousness and severe complications, supporting the UKHSA's assessment of paramyxoviridae as a high pandemic risk.
* [https://www.who.int/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-(mers)](https://www.who.int/news-room/fact-sheets/detail/middle-east-respiratory-syndrome-%28mers%29) - This page explains the characteristics of MERS, a member of the coronaviridae family, which is considered a high-risk pathogen by UKHSA.
* [https://www.who.int/news-room/q-and-a/detail/influenza-(seasonal)](https://www.who.int/news-room/q-and-a/detail/influenza-%28seasonal%29) - This source discusses the threat of influenza viruses, part of orthomyxoviridae, which presents ongoing seasonal risks and potential for mutations.